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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|----------------------|---------------------|-------------------------|
| 10/764,750 | 01/26/2004 | Hsiang-Lan Lung | MXIC-P910329 | 8735 |
| 7590 | 07/27/2005 | | | EXAMINER NGO, NGAN V |
| Kenton R. Mullins Stout, Uxa, Buyan & Mullins, LLP 4 Venture, Suite 300 Irvine, CA 92618 | | | ART UNIT 2818 | PAPER NUMBER |

DATE MAILED: 07/27/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

AK

| | | | |
|------------------------------|------------------------|---------------------|--|
| Office Action Summary | Application No. | Applicant(s) | |
| | 10/764,750 | LUNG ET AL | |
| | Examiner Ngan Ngo | Art Unit 2818 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on ____.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-14 is/are pending in the application.
 - 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) Claim(s) ____ is/are allowed.
- 6) Claim(s) 1-14 is/are rejected.
- 7) Claim(s) ____ is/are objected to.
- 8) Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on ____ is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. ____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

| | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____. |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date ____. | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| | 6) <input type="checkbox"/> Other: ____. |

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-4, 6-11, 13, and 14 are rejected under 35 U.S.C. 102(e) as being anticipated by Hush (US-6873538 B2).

Hush discloses a memory cell comprising a chalcogenide random access memory cell and a CMOS circuit operative to access the CRAM cell. Note lines 30-40 of column 3 and lines 6-10 of column 4 of Hush.

In re claims 2 and 3, Hush discloses the CRAM cell having cross-section area. No patentable weight is given to "thin film process" and "iso-etching process" because they are process limitation in the product claim. A "product by process" claim is directed to the product per se, no matter how actually made, In re Hirao, 190 USPQ 15 at 17(footnote 3). See also In re Brown, 173 USPQ 685; In re Luck, 177 USPQ 523; In re Fessmann, 180 USPQ 324; In re Avery, 186 USPQ 161; In re Wertheim, 191 USPQ 90 (209 USPQ 554 does not deal with this issue); In re Marosi et al, 218 USPQ 289; and particularly In re Thorpe, 227 USPQ 964, all of which make it clear that it is the patentability of the final product per se which must be determined in a "product by process" claim, and not the patentability of the process, and that an old or obvious product produced by a new method is not patentable as a product, whether claimed in

"product by process" claims or not. Note that applicant has the burden of proof in such cases, as the above caselaw makes clear.

In re claim 4, Hush discloses a chalcogenide structure (chalcogenide layer disposed between electrodes 150 and 152) in series with a semiconductor device (CMOS transistor 124)

In re claim 6, Hush discloses a selecting transistor operative to drive a current through the chalcogenide structure when enabled by a voltage at a gate terminal of the selecting transistor. See column 4, lines 20-45.

In re claims 7, 8, and 14, Hush discloses in figures 1 and 4 that the selecting transistor can be connected to word lines (110), drive lines, and bit lines (116).

The subject matter of claims 9-11 and 13 has been discussed above.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 5 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hush in view of Chen et al (US 2004/0257854 A1).

Hush discloses all the subject matter discussed above; however, Hush does not teach the diodes driving current through the chalcogenide structure. Chen discloses in paragraph [0021] that a diode can be used to drive current through the chalcogenide structure instead of a transistor. Therefore, it would have been obvious to one of

ordinary skill in the art to use a diode to drive a current through the chalcogenide structure as taught by Chen.

The other references are cited to show other structures pertinent to Applicants' disclosure.

Any inquiry concerning this communication should be directed to Examiner Ngan Ngo at telephone number (571) 272-1711. The fax phone number for the organization where this application or proceeding is assigned is (571)-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Ngan Van Ngo
Primary Examiner

Ngan Ngo

July 24, 2005